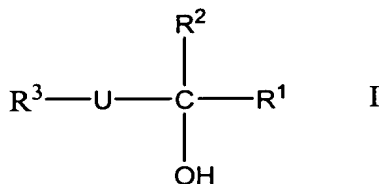


IN THE CLAIMS

1-14 (Cancelled)

15 (New): A process for the preparation of a compound of the general formula I by subjecting a compound of general formula V to an electrochemical reaction with an alcohol of the general formula II in the presence of an auxiliary electrolyte and catalytic amounts of a metal salt (S) derived from a metal from sub-groups (groups) Ib (11), IIb (12), VIb (6), and VIIIb (8, 9, 10) of the periodic chart or from lead, tin or rhenium,

wherein the compound of general formula I is:



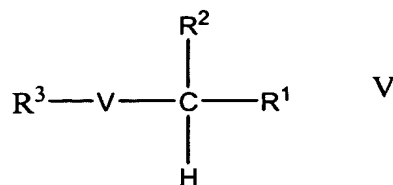
where R^1 , R^2 , R^3 are each independently hydrogen, C_1 - to C_{20} -alkyl, C_2 - to C_{20} -alkenyl, C_2 - to C_{20} -alkynyl, C_3 - to C_{12} -cycloalkyl, C_4 - to C_{20} -cycloalkyl-alkyl, C_1 - to C_{20} -hydroxyalkyl, or aryl or C_7 - to C_{20} -arylalkyl which is unsubstituted or substituted by C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, halogen, C_1 - to C_4 -haloalkyl, C_1 - to C_4 -haloalkoxy, phenyl, phenoxy, halophenyl, halophenoxy, carboxyl, C_2 - to C_8 -alkoxycarbonyl or cyano, or R^1 and R^2 or R^3 together are a C_2 - to C_9 -alkandiyl unit which is unsubstituted, monosubstituted or disubstituted by C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy and/or halogen and in which one or two methyl groups may also be replaced by a $(\text{CH}=\text{CH})$ unit and R^3 is additionally an acetylated carbonyl group in which the alkoxy groups are derived from an alcohol of the general formula II:



where R^4 is C_1 - to C_6 -alkyl, and

U is an acetylated carbonyl group in which the alkoxy groups are derived from an alcohol of the general formula II; and

wherein the compound of general formula V is:

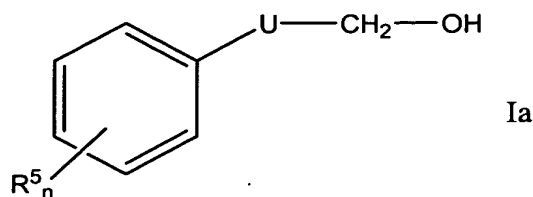


wherein:

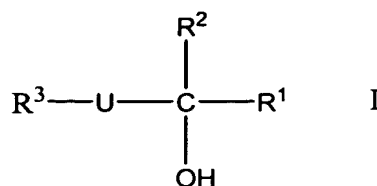
V is a carbonyl group, or an acetylated carbonyl group having C₁- to C₆-alkoxy,

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R¹, R² and R³ are hydrogen, C₁- to C₂₀-alkyl, C₂- to C₂₀-alkenyl, C₂- to C₂₀-alkynyl, C₃- to C₁₂-cycloalkyl, C₄- to C₂₀-cycloalkyl-alkyl, C₁- to C₂₀-hydroxyalkyl, or aryl or C₇- to C₂₀-arylalkyl which is unsubstituted or substituted by C₁- to C₈-alkyl, C₁- to C₈-alkoxy, halogen, C₁- to C₄-haloalkyl, C₁- to C₄-haloalkoxy, phenyl, phenoxy, halophenyl, halophenoxy, carboxyl, C₂- to C₈-alkoxycarbonyl or cyano, or R¹ and R² or R³ together are a C₂- to C₉-alkandiyl unit which is unsubstituted, monosubstituted or disubstituted by C₁- to C₈-alkyl, C₁- to C₈-alkoxy and/or halogen and in which one or two methyl groups may also be replaced by a (CH=CH) unit and R³ is additionally an acetylated carbonyl group having C₁- to C₆-alkoxy.

16 (New): The process of Claim 15 for the preparation of a compound of the general formula Ia:



where U is as defined under the formula I,



n is 0, 1, 2 or 3, and

R⁵ is C₁- to C₈-alkyl, C₁- to C₈-alkoxy, halogen, C₁- to C₄-haloalkyl, C₁- to C₄-haloalkoxy, phenyl, phenoxy, halophenyl, halophenoxy, carboxyl, C₂- to C₈-alkoxycarbonyl or cyano.

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Contd

17 (New): The process of Claim 16, where the compound of the general formula Ia is 2-phenyl-2,2-dimethoxyethanol.

18 (New): The process of Claim 15, where the compound of the general formula I is a compound of the general formula Ib:



where m is a number from 1 to 10, and R⁴ is as defined under the formula II, and the compound of the general formula V is a compound of the general formula Vb:



19 (New): The process of Claim 15, where the compound of the formula I is 2,2,3,3-tetramethoxypropanol, and the starting compound employed is methylglyoxal dimethyl acetal.

20 (New): The process of Claim 15, where the anions of the metal salt (S) are derived from a mineral acid.

21 (New): The process of Claim 15, where the anions of the metal salt (S) are phosphate, sulfate, nitrate, perchlorate or halide.

22 (New): The process of Claim 15, where the cations of the metal salt (S) are iron, nickel, platinum, palladium, cobalt, zinc, silver or copper.

23 (New): The process of Claim 15, where the electrolysis liquid contains from 1 to 1,000 ppm by weight of metal ions of the metal salt (S), based on the total amount of electrolysis liquid.

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contd 24 (New): The process of Claim 15, where the electrolysis liquid contains a halogen-containing auxiliary electrolyte.

25 (New): The process of Claim 15, where the electrolysis liquid consists essentially of:

a starting compound of the general formula V,
an alcohol of the general formula II,
a halogen-containing auxiliary electrolyte,
a catalytic amount of the metal salt (S),
optionally the desired products of the general formulae I,
optionally other by-products of electrolysis which are derived from the compounds of the general formulae I and V, and
optionally, other conventional co-solvents.

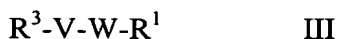
26 (New): The process of Claim 15, wherein
the proportion of the starting compound(s) and product(s) of the general formulae I
and V and of the other by-products of electrolysis from the abovementioned compound(s) is
from 1 to 70% by weight,
the proportion of the alcohol of the general formula II is from 14.9 to 94.9% by
weight,
the proportion of auxiliary electrolyte is from 0.1 to 5% by weight, and
the proportion of any co-solvents present is from 0 to 70% by weight
based on the electrolysis liquid.

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cont'd
27 (New): The process of Claim 15, wherein the electrolysis is carried out in an
undivided electrolysis cell.

28 (New): The process of Claim 15, where the anodes employed are made of noble
metals, noble-metal oxides, graphite or carbon materials, and the cathodes employed are
made of iron, steel, nickel, zinc, noble metals, graphite or carbon materials.

29 (New): A process for preparing a compound of general formula III by subjecting a
compound of general formula Va to an electrochemical reaction with an alcohol of the
general formula II in the presence of an auxiliary electrolyte and a catalytic amount of a metal
salt (S) derived from a metal from sub-groups (groups) Ib (11), IIb (12), VIb (6), and VIIIb
(8, 9, 10) of the periodic chart or from lead, tin or rhenium;

wherein the compound of general formula III is:

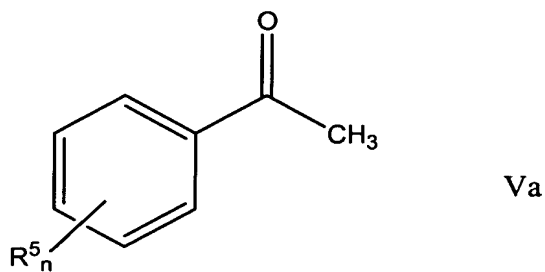


wherein R^1 is hydrogen, and

R^3 is exclusively aryl which is unsubstituted, or substituted by C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, halogen, C_1 - to C_4 -haloalkyl, C_1 - to C_4 -haloalkoxy, phenyl, phenoxy, halophenyl, halophenoxy, carboxyl, C_2 - to C_8 -alkoxycarbonyl or cyano; and

V and W are independently a carbonyl group, or an acetylated carbonyl group having C_1 - to C_6 -alkoxy, with the proviso that one of the groups V and W is a carbonyl group and the other is an acetylated carbonyl group; and

wherein the compound of general formula Va is:

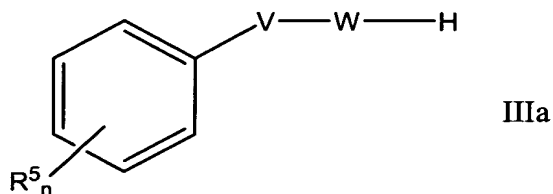


wherein:

R^5 is C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, halogen, C_1 - to C_4 -haloalkyl, C_1 - to C_4 -haloalkoxy, phenyl, phenoxy, halophenyl, halophenoxy, carboxyl, C_2 - to C_8 -alkoxycarbonyl or cyano, and

n is 0, 1, 2 or 3.

30 (New): The process of Claim 29 for the preparation of a compound of the general formula IIIa:



where n, V, W and R^5 are as defined under formula Ia or III.

31 (New): The process of Claim 30, where the compound of the general formula IIIa

is 2-phenyl-2,2-dimethoxyacetaldehyde or 2-phenylglyoxal dimethyl acetal.

32 (New): The process of Claim 29, where the anions of the metal salt (S) are derived from a mineral acid.

33 (New): The process of Claim 29, where the anions of the metal salt (S) are phosphate, sulfate, nitrate, perchlorate or halide.

34 (New): The process of Claim 29, where the cations of the metal salt (S) are iron, nickel, platinum, palladium, cobalt, zinc, silver or copper.

35 (New): The process of Claim 29, where the electrolysis liquid contains from 1 to 1,000 ppm by weight of metal ions of the metal salt (S), based on the total amount of electrolysis liquid.

36 (New): The process of Claim 29, where the electrolysis liquid contains a halogen-containing auxiliary electrolyte.

37 (New): The process of Claim 29, where the electrolysis liquid consists essentially of:

a starting compound of the general formula V,

an alcohol of the general formula II,

a halogen-containing auxiliary electrolyte,

a catalytic amount of the metal salt (S),

optionally the desired products of the general formulae I,

optionally other by-products of electrolysis which are derived from the compounds of the general formulae III and V, and

optionally, other conventional co-solvents.

38 (New): The process of Claim 29, wherein

the proportion of the starting compound(s) and product(s) of the general formulae III and V and of the other by-products of electrolysis from the above mentioned compound(s) is from 1 to 70% by weight,

the proportion of the alcohol of the general formula II is from 14.9 to 94.9% by weight,

the proportion of auxiliary electrolyte is from 0.1 to 5% by weight, and

the proportion of any co-solvents present is from 0 to 70% by weight based on the electrolysis liquid.

39 (New): The process of Claim 29, wherein the electrolysis is carried out in an undivided electrolysis cell.

40 (New): The process of Claim 29, where the anodes employed are made of noble metals, noble-metal oxides, graphite or carbon materials, and the cathodes employed are made of iron, steel, nickel, zinc, noble metals, graphite or carbon materials.

41 (New): A process for preparing a compound of the general formula IV by subjecting a compound of general formula Vb to an electrochemical reaction with an alcohol of the general formula II in the presence of an auxiliary electrolyte and a catalytic amount of a metal salt (S) derived from a metal sub-groups (groups) Ib (11), IIb (12), VIb (6), and VIIIb (8, 9, 10) of the periodic chart or from lead, tin or rhenium;

wherein the compound of general formula IV is:



wherein:

B5 Control
 R^3 is exclusively aryl which is unsubstituted, or substituted by C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, halogen, C_1 - to C_4 -haloalkyl, C_1 - to C_4 -haloalkoxy, phenyl, phenoxy, halophenyl, halophenoxy, carboxyl, C_2 - to C_8 -alkoxycarbonyl or cyano;

R^4 is C_1 - to C_6 -alkyl; and

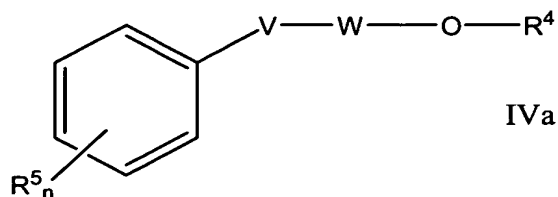
V and W are independently a carbonyl group, or an acetylated carbonyl group having C_1 - to C_6 -alkoxy, with the proviso that one of the groups V and W is a carbonyl group and the other is an acetylated carbonyl group;

wherein the compound of general formula Vb is:

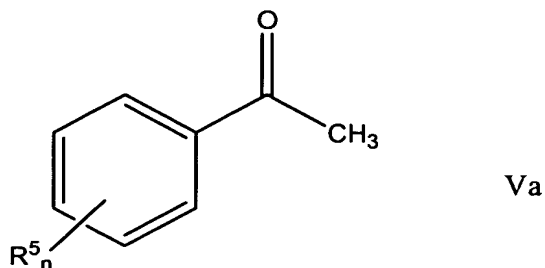


wherein m is 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10.

42 (New): The process of Claim 41 for the preparation of a compound of the general formula IVa:



where n, V, W, R⁴ and R⁵ are as defined under the formula Ia or IIIa, by employing as a starting compound of the general formula V, a compound of the general formula Va,



where n and R⁵ are as defined under the formula Ia.

43 (New): The process of Claim 42, where the compound of the general formula IVa is phenylglyoxylic acid methyl orthoester, and the compound of the general formula Va is acetophenone.

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Contd

44 (New): The process of Claim 41, where the anions of the metal salt (S) are derived from a mineral acid.

45 (New): The process of Claim 41, where the anions of the metal salt (S) are phosphate, sulfate, nitrate, perchlorate or halide.

46 (New): The process of Claim 41, where the cations of the metal salt (S) are iron, nickel, platinum, palladium, cobalt, zinc, silver or copper.

47 (New): The process of Claim 41, where the electrolysis liquid contains from 1 to 1,000 ppm by weight of metal ions of the metal salt (S), based on the total amount of electrolysis liquid.

48 (New): The process of Claim 41, where the electrolysis liquid contains a halogen-containing auxiliary electrolyte.

49 (New): The process of Claim 41, where the electrolysis liquid consists essentially of:

a starting compound of the general formula V,

an alcohol of the general formula II,

a halogen-containing auxiliary electrolyte,

a catalytic amount of the metal salt (S),

optionally the desired products of the general formulae IV

optionally other by-products of electrolysis which are derived from the compounds of

the general formulae IV and V, and

optionally, other conventional co-solvents.

50 (New): The process of Claim 41, wherein

the proportion of the starting compound(s) and product(s) of the general formulae IV and V and of the other by-products of electrolysis from the above mentioned compound(s) is from 1 to 70% by weight,

the proportion of the alcohol of the general formula II is from 14.9 to 94.9% by weight,

the proportion of auxiliary electrolyte is from 0.1 to 5% by weight, and

the proportion of any co-solvents present is from 0 to 70% by weight based on the electrolysis liquid.

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Contd

51 (New): The process of Claim 41, wherein the electrolysis is carried out in an undivided electrolysis cell.

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Contd

52 (New): The process of Claim 41, where the anodes employed are made of noble metals, noble-metal oxides, graphite or carbon materials, and the cathodes employed are made of iron, steel, nickel, zinc, noble metals, graphite or carbon materials.
